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Disaster Nursing Preparation

IN A
PRACTICAL NURSING
PROGRAM

**THIS ITEM DOES NOT
CIRCULATE**

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service

This is a report on one phase of a pilot project conducted under the sponsorship of the National League for Nursing to determine how disaster nursing concepts can be taught in a hospital nursing service, in a practical nursing program, and in a basic professional program.

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Copies of the entire report, published in one volume as *Disaster Nursing Preparation*, are available from the National League for Nursing, 10 Columbus Circle, New York, N.Y., at \$3.00 a copy.

*Disaster Nursing
Preparation*

IN A
PRACTICAL NURSING
PROGRAM

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NATURE AND PURPOSE OF THE PROJECT

This is a report on the hospital nursing service phase of a study undertaken by the National League for Nursing aimed at improving the preparation of nurses for the functions they are expected to assume during disasters. The study was financed through a contract with the Federal Civil Defense Administration (now the Department of Defense, Office of Civil Defense) and was in effect from January 27, 1958, to September 6, 1961.

Disaster situations present unusual and challenging problems to society and particularly to nursing. The scope of the problem that affects society is clearly stated by Anthony Wallace:

Situations involving the threat of, or experience of, an interruption of normally effective procedures for reducing tensions, together with a dramatic increase in tensions, to the point of causing death or major personal or social readjustment may be called "extreme situations." Such extreme situations, especially when they involve injury or death, are often called disasters.¹

This statement helps to focus the problem encountered by nurses in times of disaster. When translated into nursing terms, the problem becomes one of an interruption of planned nursing service in existing institutions, agencies, and homes by a sudden intrusion of great numbers of sick and injured and the use of shelters and other structures for disaster victims. The problem requires that nurses:

- (1) Organize under chaotic conditions.
- (2) Manage large wards with little or no professional assistance.
- (3) Utilize volunteer help, both trained and untrained.
- (4) Adapt and develop nursing care procedures to meet the demands of a disaster situation.

¹ Anthony F. Wallace. *Human Behavior in Extreme Situations*, Disaster Study Number 1, Publication 390, National Academy of Sciences, Washington, D.C., National Research Council, 1956, p. 1.

(5) Adapt and develop public health nursing functions to meet the demands of the situation.

In addition to these demands for nursing which are within the realm of nursing practice, the American Nurses' Association and the American Medical Association are in agreement that in a disaster, if physicians are not available, nurses will assume activities currently within the realm of medical practice, that is, the management of normal deliveries, the management of the psychologically disturbed, and the diagnosis and treatment of minor illnesses and injuries.

The NLN, whose purpose is the improvement of nursing services and nursing education, recognized its obligation to help nursing services and educational programs in nursing to prepare nurses who could meet these demands. This belief led to the appointment of the NLN Committee on Nursing Service and Education in National Defense in 1954. This committee formulated the original plans for the project and participated in its ongoing development.

A. PURPOSE AND GENERAL METHOD

The project was designed to investigate and demonstrate the ways by which students of nursing and personnel in hospital nursing services can be prepared to cope with these five disaster nursing problems and those additional activities that impinge on medical practice.

The major approach to the achievement of this purpose was through studies conducted in a hospital nursing service and in educational programs of various types—practical nursing, diploma, baccalaureate degree, and graduate. In addition, a survey was made of the extent to which preparation for disaster nursing was currently being offered by educational programs in nursing throughout the country. A related activity, recommended by the NLN Committee on Nursing Service and Education in National Defense, was the construction of an achievement test in disaster nursing by the NLN Test Construction Unit.

B. PARTICIPANTS

The demonstration studies were made possible through subcontracts with four institutions that were desirous of developing disaster nursing content for their nursing programs and that had indicated their

interest in the NLN project. These four institutions and the programs in which the studies were carried out were:

- (1) Massachusetts General Hospital: diploma program and hospital nursing service.
- (2) University of Minnesota: practical nursing program and basic baccalaureate degree program.
- (3) Skidmore College: basic baccalaureate degree program.
- (4) Teachers College, Columbia University: baccalaureate degree program for registered nurses and graduate programs.

Mary V. Neal served as NLN director of the entire project throughout its duration. Catherine M. Sullivan, nurse consultant, OCDM, served as liaison between the OCDM and the NLN. The NLN Committee on Nursing Service and Education in National Defense was the advisory committee to the project.

The activities in each of the participating institutions were guided by one or more project directors. In view of the importance of the project, the Army Nurse Corps lent the services of three nurse officers to serve as project directors for a period of 12 months, in 1958 and 1959, in Massachusetts General Hospital, the University of Minnesota, and Teachers College, Columbia University. From 1959 until the completion of the study, the responsibility for project direction in each of these three institutions was delegated to one or more of its staff members. Skidmore College appointed one of its faculty members to direct its study for the entire duration of the project.

Although it was agreed from the beginning that each participating institution would develop its portion of the study according to its own philosophy, the need for continuing communication about common problems was felt. Accordingly, a Project Conference Group, consisting of the administrators and project directors of the participating programs, the members of the NLN Committee on Nursing Service and Education in National Defense, and the NLN project director, met at intervals throughout the duration of the project to plan its overall development.

C. LENGTH OF THE PROJECT

According to the original plans, the study was to extend over a period of 18 months. By the beginning of 1959, the Project Conference Group concluded that this period would not be adequate for involving

the leadership personnel in the programs participating in the study and preparing them for their roles, for exploring and revising curriculum content and organization, and for evaluating results. Accordingly, the NLN Committee on Nursing Service and Education in National Defense recommended to the NLN Board of Directors that additional funds be obtained for extending the study long enough that the plan of instruction devised by each participating program could be implemented and subsequently evaluated. The OCDM made available the additional funds that were needed for this extension.

Teachers College completed its portion of the study in September 1960. The three other institutions continued their studies until September 1961.

D. REPORTS OF FINDINGS

By agreement, the plan by which each program reported progress included identification of the problem, formulation of the objectives, description of the methods and techniques, evaluation of the results, and formulation of conclusions and recommendations. In keeping with the prerogatives of the participating institutions, each one selected its own means of conducting the study.

This booklet presents a summary of the activities undertaken by the Project Conference Group and by the individual participating institutions. It is hoped that it will be of use to nursing services that are endeavoring to prepare their staff members for functioning in a disaster situation. However, all those involved in the study caution against any assumption that the report is a final or an authoritative document. They wish to emphasize their opinion that the experience in any one program cannot and should not be duplicated exactly in any other program. They do believe that their experiences may suggest ideas to, or corroborate the ideas of, others engaged in disaster nursing preparation. It is in keeping with this belief that this report has been prepared.

CONCLUSIONS

1. Nursing functions essential for optimum care that is directed toward the preservation or maintenance of life during a disaster have not been identified.
2. A basic educational program in nursing can include preparation in only the fundamental knowledge and skills essential for effective functioning by nurses in a disaster situation.
3. Disaster nursing is not a clinical specialty.
4. Disaster nursing instruction may be included within the usual nursing courses or may be given as a special course.
5. Clinical laboratory settings for learning experiences in disaster nursing are limited to the setting of the everyday practice of nursing.
6. At the present time, faculty members in schools of nursing have limited preparation for teaching disaster nursing.
7. Courses for teacher preparation in disaster nursing are almost non-existent.
8. The inservice program is one effective means of preparing nursing instructors in disaster nursing.
9. Not all faculty members have the same interest in the development of disaster nursing content.
10. Students in nursing are inadequately informed about national and world affairs that have direct implications for national security and indirectly for disaster nursing.
11. Faculty study and action concerning disaster nursing results in a strengthening of the total curriculum.

SETTING THE STAGE FOR THE DEMONSTRATION PROJECTS

A. STATEMENT OF BELIEF

The initial task of the Project Conference Group was to prepare the following tentative statement of belief about nursing in disaster:

The role of the professional nurse in natural or enemy-caused disaster is to adapt nursing care with respect to lifesaving and health maintenance to situations where the number of people needing care and treatment greatly exceeds the number of prepared people available, and where supplies, equipment, physical facilities, and utilities are limited.

B. ASSUMPTIONS

Twelve general assumptions served as guides for the development of the project.

1. Disaster nursing care includes care of both the injured and the noninjured.
2. In general, priority nursing judgments in disaster nursing are such as to protect the greatest number.
3. The nurse functions within the organizational framework that has been designed for the disaster situation.
4. The collaborative role of the health professions in mass disaster is determined by the individual professions through joint effort.
5. The nursing profession clarifies for its members the role to be assumed by nurses in disaster situations and the nature and extent of

the additional functions for which nurses may be responsible in disasters when numbers of physicians are inadequate.

6. The programs of the nursing organizations assist their members to keep prepared for the role of the nurse in a disaster situation.
7. The individual nurse assumes the responsibility of keeping herself informed and prepared to practice in a disaster situation.
8. The nurse brings to disaster situations an essential body of knowledge and skill which enables her to contribute to the health and welfare of the surviving populace.
9. The survival of any nation following an enemy attack is dependent upon planning by its government and preparation of its people to meet the inevitables of destruction.
10. The preparation of nurses to cope with the inevitables of enemy-caused action helps to determine the survival and future of the nation.
11. Institutions of learning that provide educational programs in nursing have a responsibility to prepare nurses to cope with situations created by natural as well as enemy-caused disasters.
12. Organized nursing services have a responsibility to prepare their nursing personnel to cope with situations created by natural as well as enemy-caused disasters.

C. GUIDELINES

Five agreements concerning the development of the study were reached.

First, each participating program committed itself to one purpose: The determination of how to prepare its graduates or staff to perform effectively in times of disaster.

Second, it was agreed that each institution would develop its portion of the study according to its own beliefs concerning curriculum organization and inservice education. In other words, despite the sameness of purpose, there would be a diversity in the planning and implementation of the study in the programs. The fact was recognized and respected that the philosophies of the institutions vary and therefore that the specific educational objectives of practical nursing programs, diploma programs, baccalaureate degree programs, and graduate programs differ tremendously.

The third decision was that preparation for disaster nursing must have a basis in reality. The nurse or nursing student must be helped to experience some feeling of what it is like to function in a disaster. Assumption 2, "In general, priority nursing judgments in disaster nursing are such as to protect the greatest number," is hardly consistent with present-day nursing practice in which the critically ill are usually accorded priority care. Also, in everyday nursing practice, the opportunity to observe nursing as it is practiced in a real situation offers a basis for planning desirable nursing care and for determining content for educational programs. In contrast, the extreme situations created by a disaster, especially those created by an enemy-caused disaster, are virtually unknown to the average faculty member, and she has no laboratory for learning herself or helping her students to learn through direct experience how to deal with such situations. It was recognized, however, that students in nursing are capable of intellectually understanding complexities and problems of patient care before they are able to cope with these complexities in an actual situation. Since this is a problem encountered in everyday teaching, it was anticipated that teaching the student how to cope in a disaster would be a major undertaking.

After a careful examination of this problem, it was agreed that a new philosophy of nursing care that would best meet the needs of the many victims in a disaster must be planned and implemented in the day-to-day teaching and practice of nursing.

The fourth agreement was that materials used or developed by the pilot institutions should be helpful to, or usable by, other educational programs and nursing services: Films and other visual materials would be chosen from among those available on a local or State basis; resource persons utilized in program development would be chosen from among those available on a local or State basis; and State Civil Defense Emergency Hospitals* would be used to demonstrate national and State plans. This universal availability requirement would also be reflected in the development of teaching materials, such as improvised equipment, in the teaching and utilization of nonprofessional personnel and in those activities that impinge upon the present-day practice of medicine but will be delegated to nurses in times of disaster.

The fifth agreement was that the content and methods of instruction can best be developed by specialists in the clinical areas rather than by a specialist in disaster nursing. This decision was in line with the belief that disaster nursing is an integral part of each nursing specialty and that only the clinical specialist has the background knowledge to develop further content in her specialty. This led to another agreement: A student must have a sound understanding of the practice of nursing before disaster nursing care can be taught. The development of this

*Now called Packaged Disaster Hospitals

sound understanding demands that greater depth of content be taught in certain areas of practice, such as the management and nursing care of burn victims.

These agreements—the sameness of purpose, the recognition of each institution's prerogatives, the basis of reality for planning, the development of educational materials that would be useful to others, and the development of disaster nursing content by clinical experts—formed a basis for the development of the project within each of the participating institutions.

D. ESSENTIAL CONTENT AND SUGGESTED METHODS

The Project Conference Group also identified content that should be included in any instructional program that prepares for disaster nursing and in some instances suggested ways of teaching this content. The content decided upon as essential was that relating to:

- (1) The circumstances created by disasters. (Problem solving might be included among the teaching methods.)
- (2) Improvisation of procedures and equipment. (This might be included as an extension of everyday methods of practice.)
- (3) The psychological impact of disasters.
- (4) The philosophy of the mass-care plan; namely, that the greatest possible number should receive care and that the less seriously wounded should assist in the care of the more seriously injured.
- (5) Federal, State, local, and institutional plans for disaster preparedness.
- (6) The responsibilities of citizenship as well as those relating to professional participation in planning for disaster preparedness.
- (7) The principles of treatment as defined by the medical profession (since these must serve as a basis for planning nursing care in times of disaster).
- (8) Team organization, principles of teaching, and concepts necessary for assuming a leadership role.

Methods suggested for presenting this content were:

- (1) The utilization of all opportunities for teaching this content that are presented in everyday experiences.
- (2) Provision of vicarious experiences that will prepare the student or nurse to function in the chaotic circumstances of a mass disaster.
- (3) Practice in determining nursing priorities for groups of acutely ill patients, especially those who have had surgical intervention.

E. RESPONSIBILITIES OF PROJECT DIRECTORS

Another important preliminary to the implementation of the demonstration projects was the determination of the responsibilities to be carried by the project directors in the institutions. This decision was not made by the Project Conference Group, but was reached in each institution. For the most part, it was agreed by the administration, the faculty or the service staff, and the project director that the project director could best contribute to the study by performing the following tasks:

- (1) Actively participating in the appointed committees on nursing in disaster.
- (2) Assisting the chairman of the curriculum committee or the staff education director in the development of the educational framework for the project.
- (3) Participating in faculty and staff inservice educational activities.
- (4) Working with the faculties, according to the adopted plan, in curriculum analysis.
- (5) Maintaining resource materials and an extensive bibliography.
- (6) Assisting in working with related community agencies according to the overall plan of the project.
- (7) Assisting in the preparation of inventories or studies within the study.
- (8) Preparing or assisting in the preparation of reports on the study.

TEACHER PREPARATION

It is, of course, a truism that whenever new goals are accepted for a curriculum, all faculty members must appreciate the importance of these goals, must be aware of their implications for curriculum content, and must have some knowledge of the specifics of this content. In the case of disaster nursing, this need was heightened by the decision not to treat this subject as a separate specialty with a specialist on the faculty to assume major responsibility for identifying the goals and seeing to it that they are achieved. The agreement that disaster nursing content and methods of helping students to learn it can best be developed by the teachers in the clinical areas had an obvious corollary: All faculty members in an educational program preparing its students to function in a disaster must have considerable depth of knowledge about disaster nursing.

A. SURVEYS OF FACULTY PREPARATION

According to this reasoning, preliminary to developing its part of the project, each of the participating educational units determined the extent to which its faculty members were prepared to assume their appropriate roles in the preparation of students in disaster nursing. In each case, the inventory yielded findings similar to those of a questionnaire survey of 1,194 educational programs. While on each faculty there were some members who had taken a course in first aid or disaster nursing or had had actual experiences in a disaster, an equal or greater number had had no disaster nursing preparation whatsoever.

Moreover, from the way they participated in these surveys, it was apparent that the faculty members varied greatly in their interest, knowledge, and enthusiasm for the teaching of disaster nursing. This interest extended over the range from those who said, "If there is a nuclear attack, I won't be here to worry about it," to those who said, "I feel passive interest with mild curiosity," and the rare remark, "I look forward to the project with the anticipation that it will be helpful to me in curriculum construction in my own situation."

The apathetic attitude expressed by many of the nurse teachers reflected that of the average citizen. Those who had a positive viewpoint were the ones who had attended mass casualty care or other disaster

nursing courses, had had military experience, or had had nursing experience in an actual disaster.

Obviously, before the study could proceed it was necessary to institute a process or procedure that would help the faculty members accept and prepare for their roles in the project.

B. FACULTY INSERVICE PROGRAMS

Each participating educational unit developed its own plan for preparing its faculty members. These plans included two general types of activities, courses offered outside the institution and an inservice program.

Arrangements were made for faculty members to attend courses, institutes, and conferences sponsored by other organizations, such as the mass disaster care courses offered by the military services, the February 1960 course offered to nurses by OCDM and ANA, courses in civil defense offered at the State level and institutes and conferences held under the auspices of the AMA.

Programs were also developed by the faculties within the institutions for the self-education of their members.

1. Advantages

The inservice program developed within the institution appeared to be more productive than the courses offered outside the institution. It provided a means of capitalizing on the abilities of the individual members of the faculty; it allowed for concentration of content related to professional nurse responsibility; and most important of all, it provided a real opportunity for the faculty members to grow together as a group.

In addition to these advantages, the faculties considered this type of inservice program important for the following reasons:

(1) An inservice program could be planned around the needs of the group. During the time span of the project, most of the courses and institutes offered by other institutions or agencies were sponsored by the military or the medical profession. While excellent in quality, they were designed primarily for the needs of the sponsoring organizations.

(2) An inservice program could be planned to reach the largest number of instructors in the shortest period of time.

(3) An inservice program could be conducted by any school or group of schools and would therefore be appropriate for a pilot project.

(Funds for travel and extra space allotments at military courses are not available to all schools.)

Attendance by faculty members at institutes and courses offered by other agencies provided a nucleus of instructors who could contribute from either a medical, special organizational, or agency viewpoint. Besides, these persons had the opportunity to hear outstanding speakers on civil defense and mass casualty care and to participate in a multi-disciplinary educational approach in defense problems. Experiences gained at these courses were extremely valuable to personnel in the project.

This is not to say that the development and implementation of the faculty inservice programs in disaster nursing presented no difficulties. Among the problems that were encountered were those relating to the timing and scheduling of the faculty "course," the identification of appropriate content, the selection of methods for presenting content, and the involvement of all those who would be participating in the preparation of students to function in a disaster.

2. Timing and Scheduling

The time allotted to formal faculty preparation varied from school to school. The total time allotted by any school did not exceed 30 hours.

To the faculty members, who already had a full teaching load, this amount of time, in itself, created a problem. This problem was complicated by the length of the period over which the faculty course was spread—a period that was influenced by the newness of the subject matter and the need for the faculty members to assimilate it in considerable depth. It takes time to accept a new philosophy and assimilate new facts, to transfer these into a working knowledge, and then to conceptualize how they can be planned as an integral part of day-to-day instruction. The faculty inservice program therefore could not be compressed into a few consecutive all-day sessions, but had to be extended over a period of several weeks.

On the other hand, the faculties recognized that they had a responsibility to get started on the work of planning for the introduction of disaster nursing content into their curriculums. It was obvious that this work could not be postponed until all faculty members were fully prepared to undertake it. To resolve this dilemma, the faculty groups decided to start their work on the curriculum before the conclusion of the inservice programs. During the interval when they were both learning and working, they relied on the experiences and knowledge of those of their members who had had some preparation in disaster nursing to

bridge the gap until other members were more nearly ready to accept the philosophy of disaster nursing.

3. Content

Because disaster nursing content had not been identified, topics that were related to disaster nursing or mass casualty care were selected for study by the faculties. These topics did not vary greatly from one institution to another. As an example, the topics chosen for the inservice program at the University of Minnesota are presented here.

Understanding Disasters—Natural and Enemy-Caused: U.S. Disasters, Enemy-Caused Disasters, Problems Created by Disasters.

Physical Effects of Disasters: Chemical Warfare, Biological Warfare, Radiological Warfare.

Protective and Survival Measures: Evacuation, Shelter, Survival Care, Resuscitation and Care of Wounds.

Organization and Planning in Disaster Preparedness: Responsibilities and Organization for Civil Defense and Disaster Relief at All Levels.

Medical Care Plan for Mass Casualties: Role of the Nurse in Disaster, Priority of Care, Sorting Requirements of Medical Facility, Civil Defense Evacuation and Hospitalization, Military Evacuation and Hospitalization.

Psychological Aspects of Disasters: Psychological Research, Behavior in Disasters, Reactions to Civilian Disasters and Atomic Bombing, Prevention and Treatment of Psychological Casualties, Problems of Workers in Disasters.

Children in Disasters: Needs of Children, Conditions That Influence Reactions, How Children Handle Stress, Reactions to Disaster Experiences, Assistance to Child.

4. Methods

Lecture-discussion methods were usually employed. In addition, films and other visual materials were utilized, and some speakers from outside the institutions were obtained. Also, bibliographies and other materials relating to the chosen topics were prepared. For example, the project director at the University of Minnesota prepared bulletins of about 20 single-spaced pages that contained pertinent material and a bibliography on the topics selected for faculty study.

Since it was considered desirable for faculty members to have actual disaster nursing experience, the nursing service of the National Red Cross agreed that if a disaster presenting a variety of nursing prob-

lems should occur, the faculties in the project programs would be provided with a structured observational experience.

5. Participation

The involvement of all those responsible for teaching students is a problem that will undoubtedly face many faculty groups as they plan inservice programs and arrange for the curriculum studies which are prerequisite for teaching disaster nursing. In many educational institutions, some of the teaching of students is delegated to personnel in cooperating institutions. Even when all nursing courses are taught by faculty members employed by the institution that offers the educational program, the clinical learning fields may be widely scattered, so that it is difficult for the total faculty group to get together as frequently as is required for a good inservice program in disaster nursing.

The fact that this problem is not an insurmountable one was proved in the project. Two of the educational programs with instructional personnel in separated facilities were able to bring together all those involved in teaching nursing for the necessary faculty inservice preparation.

C. EXAMPLE OF FACULTY PREPARATION IN ONE SCHOOL

One of the agreements reached early in the study was that materials which the pilot institutions used or developed should be helpful to or usable by other educational programs and nursing services. With this in mind, a picture of the activities relating to faculty preparation in the Massachusetts General Hospital School of Nursing plan is presented here.

1. Inventory of Faculty Preparation

The faculty of the Massachusetts General Hospital School of Nursing used an inventory to determine the extent to which its 40 members had participated in activities related to disaster nursing preparedness. The specific activities studied were:

- (1) Completion of a first aid course in the past 3 years.
- (2) Recipience of a First Aid Instructor's Certificate in the past 3 years.
- (3) Completion of a disaster, mass casualty, or civil defense nursing course.
- (4) Participation in the teaching of a course in disaster nursing.

- (5) Teaching of nursing skills to groups other than professional nurses.
- (6) Active duty service in one of the military nursing corps.
- (7) Participation in a nursing capacity in an actual disaster.
- (8) Participation in the formulation of a disaster plan for a hospital or a health agency.
- (9) Participation in practice drills of an institutional or agency disaster plan.

The first two activities investigated were concerned with first aid and participation in both was quite limited. Two of the 40 faculty members reported that they had completed a Red Cross or other recognized first aid course in the past 3 years. One of these two instructors is the only member of the total group who stated that she had received a First Aid Instructor's Certificate during this same period of time.

Nine of the faculty members had completed a disaster, mass casualty, or civil defense nursing course. One reported that she had completed three such courses, all in 1958; another had completed two, the first between 1950 and 1953 and the second in 1958. These courses were sponsored by several different organizations, the civil defense organization and schools of nursing being the two most frequently mentioned. With one exception, all of these courses had been completed during the previous 4 years. Their length ranged from 10 to 40 hours; courses of 20 and 40 hours were the most frequently mentioned.

One faculty member reported that she had participated in the formulation of a hospital plan. Seven stated that they had participated in "dry runs" or practice drills of this type of plan. One instructor reported that the "dry run" in which she had participated was a ward fire drill. The other six stated that they had participated in plans of a more inclusive type.

In summary, 20 of the 40 faculty members had participated in at least one of the activities investigated in this study: Nine reported one activity, six reported two activities, and three reported three activities each. Of the remaining two instructors, one had participated in five activities and the other in seven. At least one instructor in each area of the curriculum had participated in one or more of the activities under investigation.

2. Scope and Objectives of the Inservice Program

As the Committee on Faculty Preparation in Disaster Nursing made plans for the inservice program, it recognized that because of time

limitations, the course could provide only an introduction to the topic of disaster preparedness and to the multitude of problems inherent in any disaster situation. Therefore, each faculty member would have to develop further understanding and technical skills, as she felt it necessary, by additional reading, discussion, and practical experience. The program had the following objectives:

- (1) Develop an awareness of the problem of preparing for natural or enemy-caused disaster.
- (2) Acquire knowledge of thermonuclear weapons, their effect on mankind, and the medical problems thus created.
- (3) Understand survival care and its implications for professional nurses as citizens.
- (4) Develop an appreciation of human behavior during disaster.
- (5) Acquire knowledge of basic operational planning for disasters by administrative agencies, medical services, and public health and welfare groups.
- (6) Understand the principles underlying management of mass casualties.
- (7) Acquire knowledge of extended functions for professional nurses in clinical nursing and administration necessitated by disaster.
- (8) Begin to appreciate the importance of incorporating concepts of nursing during disaster in the curriculum.

3. Participation

In planning the inservice program, the faculty committee hoped to secure the participation of all those involved in the preparation of the school's students. Accordingly, invitations were extended to, and were accepted by, the instructors in the institutions where the students were receiving obstetric and psychiatric nursing experiences. The strengthening of relationships with these instructors that resulted from this inservice program was one of the important byproducts of the demonstration project.

4. Scheduling

The experience in the Massachusetts General Hospital School of Nursing illustrates the trial-and-error nature of attempts to arrange a workable schedule of inservice education activities.

After comparing the usual content and time allotment in similar courses offered by the State civil defense program, Walter Reed Army Institute of Research, and the nursing service's inservice program, the committee decided that a minimum of 24 hours would be required to present the material.

Initially, the committee was of the opinion that a 3-day impact course would reach the largest number of instructors in the shortest period of time. This proved to be an impossibility, so as an alternative it was decided to offer the course to half of the faculty members in 1 week and to repeat it for the remainder in the following week. Because of the instructors' teaching schedules and other responsibilities, it was not possible to carry out this plan.

The plan that was eventually adopted consisted of a 28-hour course extending over a 10-week period. Twenty hours were devoted to formal class presentations and 8 hours to supplemental films. The faculty was divided into two sections for the formal classes; one section met on Mondays from 3:30 to 5:30 p.m., and the other section met at the same time on Tuesdays. The films were shown on Wednesday, Thursday, and Friday afternoons. This plan made it possible for instructors to attend one section meeting and one film showing each week.

In addition to being the most feasible plan, this scheduling offered several advantages over the earlier ones. The time between meetings gave each instructor an opportunity to think through her own feelings, attitudes, and philosophy on mass casualty care. Group work on the curriculum analysis was carried on simultaneously with the last half of the inservice program, and many of the instructors felt that the concurrent course helped them considerably in their committee assignments.

Originally, the committee was not able to plan time in the program for extensive practice in techniques. During the course, however, many requests were made for practice periods in splinting, application of burn dressings, patient evacuation carries, estimation of the percent of burns and of fluid requirements, administration of open drop ether, and emergency delivery. Six hours were added to the course to provide opportunity for this practice.

5. Course Content and Organization

The content of the course is listed on the chart on page 20. It was organized under two general headings—Organization for Disaster, and the Nursing Role and Responsibilities. Organization for Disaster included the role of the American Red Cross and of Civil Defense, medical facility organization, public health and welfare services, and the place of the school in disaster. Introduction to Disaster, Human Behavior, and Sorting were treated as separate topics.

Two approaches—clinical care and leadership—were utilized in studying the nursing role and nursing responsibilities. Expanded functions of the nurse were explored. They included emergency maternity care, management of burns and fractures, irradiation syndrome, and improvisation of equipment.

6. Teaching Methods

The chart indicating the content of the inservice education course at the Massachusetts General Hospital School of Nursing (fig. 1) also shows the teaching methods used. These were chiefly lectures, films, and group discussions and practice. Other less frequently utilized methods were the simulation of disaster situations and the solving of certain hypothetical disaster nursing problems.

a. Lectures

Speakers were obtained from local military installations and Civil Defense agencies as well as from within the nursing department.

b. Films

Films were readily available from military and civil defense agencies. They were used to supplement the material presented in class in an effort to give the course more breadth and depth. Instructors felt these films were worthwhile and they commented freely about them. In general, the value seemed to be related to the interest stimulated about topics discussed in class. The films also served as a means of reviewing first aid principles and resuscitative care and of portraying some of the potential functions of nurses during disaster. One of the responses not anticipated by the planning committee was that some of the films served to condition or desensitize some instructors to the sight of critically injured casualties. The faculty had some difficulty in interpreting this reaction, but it was thought that it might be a result of a relatively "protected" type of nursing experience or an expression of rejection of mass casualties and the proposed expanded role of nurses. After instructors had had a chance to talk about their reactions, many of them felt the films were very valuable and recommended their use in future programs.

c. Simulation of disaster situations

One of the faculty members who was a midwife devised an extremely effective way to simulate an emergency delivery. Casualty simulation was used only once in the program but with great success. Two committee members were made up with cosmetics to simulate casualties with extensive first, second, and third degree

Figure 1

Faculty Inservice Education Course in Massachusetts General Hospital School of Nursing

Class	Content	Method	Weekly film	Film source
I	Introduction to Disaster Nuclear Warfare Survival Care.	Lecture.	Day Called X. Nerve Gas Casualties and Their Treatment.	State civil defense agency. Do.
II	Human Behavior in Disaster.	Lecture.	Combat Psychiatry: The Battalion Medical Officer.	U.S. Army.
III	Roles of Civil Defense and American Red Cross. Medical Facility Organization "Leave on Life."	Lecture. Film.	Disaster and You. Disaster Plan (Henry Heywood Hospital).	American Red Cross. State civil defense agency.
IV	Public Health and Welfare Services in Disaster.	Panel discussion.	Public Health Problems in Mass Evacuation. Mass Feeding (Film Strip).	State civil defense agency. American Red Cross.
V	Place of School in Disaster Sorting—Early Resuscitative Care.	Lecture. Slides.	Early Resuscitative Care of the Severely Wounded.	U.S. Army.

VI	Clinical Nursing: Extended Function of Nurse. Emergency Delivery.	Group discussion. Demonstration.	Sucking Wounds of the Chest. First Aid for Fractures, Skull. Spine, and Pelvis.	U.S. Army. U.S. Navy.	State civil defense agency or U.S. Army. U.S. Navy.
VII	Clinical Nursing: Irradiation. Improvised Equipment.	Lecture. Demonstration.	Management of Burns, Part I— Supportive Care. Management of Burns, Part II— Local Care.	Do. Do.	U.S. Army, State civil defense agency, or U.S. Navy. American Medical Association.
VIII	Clinical Nursing: Burn Therapy. Fractures.	Lecture. Demonstration. Limited group practice.	Mouth-to-Mouth Rescue Breathing. Cricothyroidotomy. Disaster Anesthesia.		U.S. Army, State civil defense agency, or U.S. Navy. American Medical Association.
IX	Principles of Management in Mass Casualty Situations.	Small group dis- cussions.	Debridement-Soft Tissue Wounds. To Live Tomorrow.		State civil defense agency or U.S. Army. O.C.D. Region I.
	Application of Principles of Management to Nursing.	Small group dis- cussions.			

burns and the resultant shock. This provided an opportunity for the group to estimate the percent of surface burn and fluid requirements as well as to apply a burn dressing. In planning this session, the committee members learned that with practice, the application of cosmetics for casualty simulation can be done swiftly and skillfully.

d. Group problem solving

An effort was made to help the participants to develop general principles of leadership associated with disaster situations and during the last session the group analyzed the following four problems specifically related to the nurse's role in disaster. These hypothetical situations were designed to focus attention on the nurse's ability to manage large wards with little or no professional assistance, to organize under chaotic conditions, to utilize volunteer help—both trained and untrained—and to develop disaster nursing care procedures and programs.

Group 1. Utilize volunteer help, both trained and untrained.

Areas to be considered:

1. Sources of help
2. Identification of leaders
3. Identification of abilities and skills
4. Methods of teaching

Group 2. Develop disaster nursing care procedures.

How would you teach a lay person to give an intramuscular injection?

1. Identify problems
2. Prepare the procedure

Group 3. Develop disaster nursing care programs.

Situation: There are 2,000 people to be immunized against typhoid fever (1,550 adults and 50 children) following a flood in August. Typhoid fever has broken out. Inoculations are indicated. A shipment of 200 20-cc. vials of typhoid-paratyphoid vaccine has arrived. You have on hand:

- 1 dozen 10-cc. syringes
- 100 needles
- 4 sterno cans
- 4 basins
- a few empty coffee cans
- cotton
- soap and water
- identification tags from C.D.
- pads of paper and pencils

The standing orders are:

Three doses 0.5 cc. once a week for 3 weeks to be given s.c. if the person has never had the vaccine.

One dose of 0.1 cc. intradermally if the person has had the vaccine within 2 years or less.

Assignment: You are to set up the Clinic and are responsible for giving the inoculations over the 3-week period to the 2,000 people in the community. You recall that an Emergency Hospital has been set up 20 miles away. You think there may be a Coleman stove in it; if so, that would give you two burners to work with.

Group 4. Organize under chaotic conditions.

Situation: The place is Everett, Mass. The time is 1:30 a.m. on Saturday, July 1. The incident occurred in a large chemical plant.

One of the vats in the main building had sprung a leak and set off multiple explosions. The power of the explosions was so great that the main building collapsed, debris was blown through the air, fire broke out, sulfuric acid fumes pervaded the air. Windows in the nearby buildings and water mains were broken. Fire and rescue squads from the plant began to function immediately. The fire fighters had to rely on chemical fire extinguishers. The rescue squads began bringing out many injured workers. Some had been thrown great distances by the blast; large numbers had multiple wounds and fractures. Those near the exploded vats were severely burned, and the workers in nearby buildings were struck by flying glass.

The company immediately notified the city fire department, the police, and the nearest hospital, the Everett Private Hospital. It was estimated that approximately 300 people were injured. There are 60 on the night shift in the main plant. The ambulatory injured immediately went to the plant infirmary.

As soon as help came, the immediate evacuation of the severely injured began. All stretcher cases were to be sent to the Everett Private Hospital.

The Everett Private Hospital has 150 beds and 140 patients. There are four medical-surgical wards of 20 beds each, a pediatric ward of 20 beds, a maternity ward of 10 beds, and two private floors of 20 beds each. They also have two operating rooms—one for major surgery and one for minor surgery—and a delivery room. There are four graduate nurses and four senior students on night duty. Dr. Smith is in the delivery room attending his private patient in late first-stage labor. The hospital has no disaster plan.

You are the supervisor on night duty and are in charge of nursing. The director of nursing is on L.O.A. due to illness. You are notified patients will arrive in 30 minutes. You phone Dr. Jones,

the director, who has gone for the holiday weekend to York Beach, Maine. He is stunned because this couldn't happen to him! He tells you Dr. Smith will be in charge until he arrives. It will take him about 2 hours.

You do a quick recall of available help: The graduates live out; there are 26 student nurses in the nurses' home. "Thank heavens I had that course in disaster nursing last month," you think, and start out.

Assignment: How would you, the night supervisor, plan to meet the situation? What principles of nursing during disaster would you apply in meeting this situation?

e. *Bibliography*

A bibliography was prepared to assist faculty members to explore more fully the topics presented in the classes. The reference source proved to be extremely valuable as instructors searched for ways to increase their understanding and eventually to enrich the content of their courses.

7. Reactions of Faculty Members

Initially, the faculty members reacted to the "required" course in a variety of ways. Some were very enthusiastic because they felt they needed to know more about disaster nursing generally and they believed the course would help them in curriculum construction. Those who appeared antagonistic to the program felt resigned or indifferent to the situation. However, responses to an opinionnaire circulated at the conclusion of the course showed that somewhere and somehow during the course, those who had originally approached the subject of disaster nursing with a resigned attitude had become personally involved in it. As one faculty member put it, "Personal involvement in ominous material creates something within you which you can't run away from." Comments like this indicated that the acceptance was not a passive one, but one that included recognition of the major role that the teacher of nursing plays in national security.

Not only was the personal involvement referred to directly, but criticisms indicated that the faculty members had accepted their responsibility and were asking for more realistic problem solving and practice sessions in the estimation and treatment of burn victims, the handling of victims, the teaching of I.V., the management of emergency delivery problems, and other tasks that would be assumed by the nurse. Comments showed not only a change of attitude but a real depth of understanding of the subject.

"I was pleased that I had attended the course . . . the sense of helplessness was not as great . . . the philosophical search continues

... however, I feel that professionally and personally I now have something positive and concrete to contribute in relation to disaster planning or in the participation in an actual disaster situation." "It seemed good to participate in a faculty program whereby we actually worked together and shared . . . it promoted the feelings of comradeship and togetherness."

"I think this has been a great achievement . . . that faculty had a real opportunity to grow together as a group in another area where seniority is perhaps less important, where people are aghast and frightened and yet try to accept and plan with some faith."

The reactions of these faculty members to specific aspects of this program may be useful to others who are planning inservice programs for graduate nurses. For example, it would seem that sequence of topics and teaching methods are primary considerations in developing such programs. When attention in the course was focused on the role of the nurse and the clinical area, favorable attitudes were noticeable. Some participants expressed their attitudes as follows: "We began to finally talk about all the things that were of prime interest to us as nurses." "Nursing class had practical day-to-day content relevant to my responsibilities." "The information directly related to nursing I felt was useful."

On the other hand, opinionnaire answers showed that the group responded less favorably to the classes on organization for disaster. Most of these classes were presented by the lecture method, with little time for discussion or questions. Instructors had been provided with manuals published by the Disaster Nursing Committee of the Massachusetts Civil Defense Agency. The problem-solving approach with group discussions might have been used effectively in relation to organization for disaster, as it was later in discussing the nursing role and responsibilities.

It seems pertinent to mention that a major curriculum revision, not related to the disaster nursing project, was in progress, and an inservice program for clinical instructors, although already under way, had to be temporarily postponed until the completion of the program in disaster preparedness. The establishment of priorities in inservice programs and interpretation of this to faculty members would appear to merit thoughtful consideration by those responsible for devising and implementing such programs.

To summarize, the faculty development resulting from this inservice program consisted of:

- (1) A marked change in interest in the project and in the subject of disaster nursing.

- (2) A widespread desire on the part of individual members to increase their understanding and knowledge of the total subject as well as to explore specific areas.
- (3) A positive attitude toward the inclusion of disaster nursing content in the curriculum.
- (4) Motivation to improve current curriculum content.
- (5) A readiness to accept the next step in the study—curriculum analysis.

These outcomes were also characteristic of the inservice programs developed by the other faculties participating in the project.

DEMONSTRATION IN THE PRACTICAL NURSING PROGRAM OF THE UNIVERSITY OF MINNESOTA

A. GENERAL DESCRIPTION OF THE TOTAL PROGRAM

The School of Nursing of the University of Minnesota is one of the schools of the College of Medical Sciences. The faculty describes its educational philosophy as "a democratic philosophy of education with its concept of the social role of education in a democratic society, its emphasis upon the inherent worth of the individual and the dignity and value of human life, and its acceptance of the task of building free citizens who strive not only for their own rights and liberties but for those of others who assume the responsibility and obligations of free citizenship."

The School of Nursing conducts four types of programs in nursing: A program in practical nursing, a program that leads to a baccalaureate degree for students with no previous preparation in nursing, programs that lead to a baccalaureate degree for graduate nurses, and programs that lead to a masters degree. The first two of these programs—the practical nursing program and the baccalaureate basic program—participated in the project. The instructors in these two programs planned and worked together during the study.

The practical nursing program is designed to prepare practical nurses to give nursing service under the supervision and guidance of professional nurses or physicians.

The four-quarter program is offered on the Minneapolis campus of the University. Students are enrolled for from 12 to 16 credit-hours per quarter, approximately one-third of which are in general education courses. The practical nursing courses include supervised clinical experience in the care of mothers, babies, children, and medical and surgical patients. Additional experience in the care of the aged and chronically ill is gained in convalescent homes and homes for the aged. About 20 hours per week during the winter, spring, and summer terms are devoted to these experiences with patients. Credits earned in the practical nursing courses are applicable toward an associate in arts degree in the General College.

The courses included in the program at the time of the NLN project were as follows:

GC 2A—Psychology in Modern Society (5) (or)	GC 32—Oral Communications (3)
GC 1A—Individual Orientation (4)	PN 1—Introduction in Practical Nursing (5)
GC 10B-C—Human Biology (6)	PN 2-3-5—Elements of Nursing Care (24) (w, s, su sequence)
GC 3A—Marriage and Family Living (5) (or)	PN 6—Home Care of Patients (2)
GC 40—Problems in Contemporary Society (5) (or)	PN 7—Personal and Vocational Relationships (2)
GC 37—Social Trends and Problems (5) (or)	PN 10—Care of Mothers and Infants (3)
Other social studies electives with permission of School of Nursing adviser	PN 11—Child Care (3)
	PN 14—Normal Diet and Its Modifications (2)

B. PHILOSOPHY OF DISASTER NURSING

The University of Minnesota faculty in nursing accepted the statement of belief that was prepared at the beginning of the study by the project directors and key faculty members of all the participating institutions as the framework for content identification and curriculum analysis:

The role of the professional nurse in natural or enemy-caused disaster is to adapt nursing care with respect to lifesaving and health maintenance to situations where the number of people needing care and treatment greatly exceeds the number of prepared people available, and where supplies, equipment, physical facilities, and utilities are limited.

C. FACULTY GOALS AND ACTIVITIES

The faculty members of the professional and practical nursing programs planned and worked together in the study. They agreed to identify the understandings, knowledges, and skills in disaster nursing that graduates of basic professional nursing and practical nursing programs

should possess; to ascertain the principles and practice essential to the effective functioning of such graduates in their probable disaster roles; and to study ways in which the learning of those essentials can be incorporated into the programs at the University of Minnesota School of Nursing with a maximum economy of curriculum time and teaching personnel. The faculty identified its activities as follows:

- (1) To orient participating personnel to the project.
- (2) To orient participating personnel to the scope and problems of disaster nursing.
- (3) To identify disaster nursing principles pertinent to the educational programs being studied.
- (4) To identify current curriculum content that directly or indirectly contributes to the student's preparedness for functioning in a disaster setting.
- (5) To study ways in which disaster principles can be incorporated into the basic professional and practical nursing curriculum.
- (6) To make recommendations for disaster nursing content in the basic collegiate and practical nursing curriculums.
- (7) To develop a philosophy of disaster nursing as a guide for study and evaluation of the curriculums, and as a basis for recommendations growing out of the study.

D. IDENTIFICATION OF CONTENT AND OBJECTIVES

As a start toward identifying what disaster nursing content should and could be taught in the practical nursing program, the nurse faculty members in this program answered the same 20 questions that had been responded to by the faculty members teaching in the baccalaureate degree program in nursing:

1. Questionnaire

1. What would be the nature of disasters that relate to your specialty area?
2. What are the types of uninjured victims whose care would come under the scope of your area?
3. What are the types of injured victims?
4. What are the aspects of lifesaving measures and emergency care that belong in your specialty area?

5. Are there opportunities for including principles of sorting and treatment priority in teaching care of disaster casualties?
6. What specific nursing procedures relate to the care of disaster victims?
7. Is the student introduced to the criteria for essential nursing that would be used in a disaster situation?
8. What improvisation of supplies and equipment is included in teaching patient care in this area?
9. Is the nurse prepared to carry out disaster treatment within this area with little or no medical supervision?
10. Are there approved standing orders that may be used in disaster care for patients in your specialty area?
11. Is there an opportunity for developing an understanding of problems related to administering disaster nursing services?
12. Are there opportunities for teaching families, lay persons, and auxiliary personnel to carry out procedures and give nursing care with little or no supervision?
13. What preventive or protective measures might be included in your area relative to patient safety in a disaster situation?
14. Do the students' experiences in your clinical area contribute to their emotional preparedness to work in a disaster situation?
15. What psychological problems of disaster victims come within your specialty area?
16. What contribution does your specialty area make to the student's understanding of the public health aspects of disaster situations?
17. What are the problems of shelter living that relate to your area?
18. What contacts with other agencies, organizations, etc., does your course afford that could be utilized for emphasis on disaster preparedness and planning?
19. Are there opportunities for student projects relating to disaster nursing?
20. What bibliographical references in disaster nursing are made available to your students?

2. Further Considerations

In addition to the data collected from this questionnaire, the faculty members decided that certain factors relating to the practical nursing program and its students would have a bearing on the disaster nursing objectives and content of the program. These factors were:

1. The type of student enrolled in the practical nursing program, i.e., the age range of from 17 to 50+ years.
2. The previous education of the student, including her awareness of her role as a citizen in the event of a disaster.
3. The educational limitations imposed by the fact that the program is 10½ months long.
4. The kinds of educational experiences needed to enable a graduate of a practical nursing program to function effectively as a licensed practical nurse.
5. The many different types of responsibilities that the graduate of the program may assume.

3. Assumptions

Study of these factors led to the formulation of the following assumptions:

1. The American citizen has limited knowledge about his role in the event of a civil or enemy-caused disaster.
2. The students in practical nursing have the opportunity to complete the American Red Cross first aid course prior to admission to the program.
3. The licensed practical nurse will probably have the same basic responsibilities in a mass casualty situation that she has in nondisaster or peacetime nursing settings; that is, there should be no expansion types of function or delegation of nursing responsibilities beyond those which she is already prepared to assume. However, greater self-direction may be required in areas in which she has already proved her competence. This is to say that the practical nurse will continue to function under the supervision of the professional nurse or a physician in a disaster situation just as she does in nondisaster situations.

4. Discussion of the responsibilities of the practical nurse in the event of disaster was already included in some practical nursing courses in the University of Minnesota program.
5. In many classes information applicable to disaster nursing was included but not emphasized.

4. Preliminary and Continuing Preparation

A study of these assumptions helped the faculty members to solve what at first had seemed like a dilemma—the disparity between the abilities that a practical nurse should have in order to assume her appropriate role in a disaster and the relative shortness of the practical nursing curriculum.

First, it was recognized that some of the abilities that the practical nurse would need were abilities that every citizen should have and could acquire elsewhere than in a nursing program. Specifically, the attainment of first aid knowledge and skills was recognized as a responsibility of every citizen. Accordingly, it was decided that the completion of a Red Cross first aid course should constitute a prerequisite to admission to the practical nursing program, or, in the case of students who might not have completed the course at the time of admission, should be taken during the first half of the program.

Second, it was agreed that the students should be made aware of the desirability of their continuing to prepare for disaster nursing responsibilities after graduation by taking advantage of any inservice education programs, workshops, or institutes on this subject that might be available to them.

5. Objectives

These decisions about prerequisite and continuing preparation enabled the faculty to formulate objectives relating to disaster nursing preparation that it considered attainable in the practical nursing program of the University of Minnesota. These objectives were to help the student to:

- (1) Acquire background information pertaining to different types of disasters and the possible destruction of property and lives in these disasters.
- (2) Understand the functions of various agencies that are involved in planning for nursing preparedness.
- (3) Gain knowledge of her citizenship responsibility in disaster preparedness.

- (4) Prepare plans for herself and assist her family in preparing means to cope with disaster.
- (5) Develop an understanding of her possible individual role as a licensed practical nurse in caring for the injured survivors of a disaster.
- (6) Gain an awareness of her possible role as a member of the health team in giving immediate and continuing care to injured victims of a disaster.
- (7) Improve her ability to modify and adapt equipment and nursing methods to unusual situations.

E. PLACEMENT OF DISASTER NURSING CONTENT

As the faculty analyzed the objectives relating to disaster nursing and broke them down into component subobjectives, it became obvious that some of the subobjectives were closely related to objectives of the existing practical nursing courses. It was therefore decided that the content of these courses could be presented in such a way as to emphasize the applicability of the learning to disaster nursing situations.

On the other hand, some of the content required for attaining disaster nursing objectives did not lend itself to interpolation in existing courses. This content, it was decided, could best be taught in a series of classes placed toward the end of the program, that was termed the "disaster nursing block." There are three reasons for this decision.

First, early in her program the student must adjust to the responsibility of learning to care for patients in a clinical setting. Procedures demonstrated in the classroom and carried out in the clinical area are new to the student, and she often finds it difficult to transfer her classroom preparation to actual patient care. To add an additional dimension of nursing, that of disaster nursing, during this period of adjustment would jeopardize the current educational program.

Second, the time factor is an ever-present limitation. Aiding the student to learn basic nursing skills within a fairly stable environment seems to consume most of the time allotted to formal instruction. To effectively interject a factor that deviates from what is usually seen in the clinical situation would therefore require more time than is presently available within the established number of class hours.

Third, a sound preparation in basic nursing care would serve as a logical basis on which to build a series of classes on the practical nurse's responsibilities in the event of a disaster.

F. INTEGRATION OF CONTENT

Certain clinical laboratories were identified as those in which a concerted effort could be made to emphasize the applicability of the knowledge and skills being learned to a disaster situation.

Content Area	Clinical Laboratory
Care of premature infant in an unusual situation	Pediatrics.
Effect on children of family separation	Do.
Care of patients with burns	Pediatrics, Surgery.
Emergency deliveries	Obstetrics.
Recognition of stages of pregnancy	Do.
Recognition of abnormalities of pregnancy	Do.
Care of patients with fractures	Orthopedics.
Care of radiation exposure victims	Medicine, Surgery.
Care of patients with respiratory problems	Do.
Care of patients with seizures	Neurology.
Care of patients with large wounds	Surgery.
Care of patients in shock	Do.

G. THE DISASTER NURSING BLOCK

The disaster nursing block, which was placed in the last 10 weeks of the program, served two purposes: a review of disaster nursing content that had been "sprinkled" in other courses, and a concentration on the total problem of disaster preparedness.

The block included 10 class periods of about 2 hours each; student-teacher conferences; and student group projects which involved the collection and class presentation of information on a disaster nursing subject. Of the 10 classes, 4 were placed in the first 2 weeks of the 10-week period (2 per week), and 6 were scheduled during the last 3 weeks (also 2 per week). The time lapse between these two series of classes made it possible for the groups of students to have at least two planned conferences with the instructor. Formal class sessions during this interval were utilized for other courses. Student projects were assigned during the first 2 weeks, so that the students could work on them when they were not scheduled for classroom instruction or clinical experience.

1. Pretest

The determination of the specific content that should be included in the disaster nursing block rested, in part, on the answers to several

questions: To what extent have the students retained their knowledge of first aid principles? Are they able to apply these principles to problems that might arise in a disaster? How effective is the emphasis on "disaster nursing applications" in the practical nursing courses? What content needs to be expanded in the disaster nursing block?

As an aid in answering these questions, a test, formulated from questions by the instructors in the practical nursing courses, was given to the students before they began the disaster nursing block. Portions of this test are presented here to show the type and level of content included.

Part 1: Check all of the correct responses to the following questions.

Normal body cells which are *most readily affected* by radiation therapy include:

1. White blood cells
2. Red blood cells
3. Mucous membranes
4. Bone
5. Skin
6. Hair follicles

Common side effects of radiation therapy include:

7. Decreased hemoglobin
8. Decreased number of white blood cells
9. Edema
10. Constipation
11. Diarrhea
12. Nausea

Appropriate measures for the relief of the side effects of radiation therapy include:

13. Citrus fruit juice
14. Tea
15. Mouthwash—one-half strength
16. Olive oil to the skin
17. Kaopectate
18. Compazine

Protective isolation may be used when:

19. A patient has rheumatic fever
20. A patient has third degree burns
21. A patient has a staphylococcus infection
22. A patient has a decrease in the number of white blood cells

Symptoms of shock include:

23. Deep snoring breathing
24. Rapid shallow respirations
25. Rapid pulse
26. Slow pulse
27. Warm dry skin
28. Moist clammy skin

Symptoms of shock may be relieved by:

29. Semi-Fowler's position
30. Application of warm water bottle to feet
31. Giving warm fluids orally if person is conscious
32. Taking the person's vital signs frequently
33. Giving medication to relieve the pain caused by an injury

Symptoms of increased intracranial pressure may include:

34. Eye pupils unequal in size
35. Slow pulse
36. Weak pulse
37. State of unconsciousness

If a person has a simple fracture of his forearm:

38. He will have pain at the site of the fracture
39. There may be swelling of the broken arm
40. He should be placed in a comfortable lying position
41. He will not be able to move his fingers

Traction applied to a broken limb means that:

42. You provide a firm, strong, gentle pull on the limb
43. You may stop pulling when the person's pain is relieved
44. You may stop pulling when splints are in place
45. You will have to have another person apply the splints if you are applying the traction

You are giving first aid to victims of an automobile accident; one of the victims points at his legs and says, "I can't move them." You would:

46. Suspect he might have a broken neck
47. Roll him on his abdomen to check his back
48. Not move him without help unless absolutely necessary
49. Check for any other apparent injuries

Part II: Place a plus sign (+) before each true statement and a 0 before each false statement. Change the *italicized* word or words in each false statement to make it true.

1. A third degree burn is characterized by a *reddening of the skin with no destruction of tissue.*
2. First aid for burns includes covering the burn with *a bland ointment.*
3. If a person faints he should be placed in a position in which his head *is lower than the rest of his body.*
4. "Noisy" respirations should be considered as an indication of *a partially obstructed airway.*
5. One of the greatest concerns in planning for the medical therapy of a severely burned patient is the prevention and control of *edema.*
6. Every injured person, regardless of type of accident, must be treated as a potential victim of *shock.*
7. Trendelenburg position would be contraindicated for patients who *are in shock.*

Part III: In the space opposite each number place the letter of the one best answer.

1. A 2-year-old child placed in a bomb shelter with a nurse and a group of other children is most likely to fear
 - a. Deserion by mother
 - b. Destruction by the bomb
 - c. Separation from brothers and sisters
 - d. That his food supply may run out
2. Symptoms of dehydration in infants are
 - a. Diarrhea, sweating
 - b. Bulging fontanel, edema
 - c. Pulsating fontanel, very high fever
 - d. Sunken eyes, loss of elasticity of the skin
3. An infant with crowing respirations can benefit most from
 - a. Moist air
 - b. Being placed on his back
 - c. Having his head elevated
 - d. Ice applied to his neck

The results of this test indicated that by and large, the students were able to transfer knowledge about everyday nursing practice to

disaster situations. The students' performance on the test did, however, point to a few content areas that needed strengthening. For example, the answers to some questions indicated a need to remind students that they should review first aid content so that they could more readily see its application to the problems considered in disaster nursing. Since all students seemed to have difficulty in answering the questions pertaining to pediatric and obstetric nursing, one of the group projects in the disaster nursing blocks was centered on maternal-child care in a disaster situation.

2. Content

The content of the disaster nursing block has been changed somewhat in the light of the findings from the pretest and the experience of previous classes of students. The following outline indicates the content areas included in the 10 class sessions provided for the first group of students:

Objective*	Content	Method of presentation	Class hours
1	Introduction to types of disasters and problems caused by disasters.	Lecture, discussion.	2
1	Physical effects of disasters and introduction to methods of treatment.	..... do.....	3
6, 7	Principles of mass casualty care.	..... do.....	2
5, 6	Psychological reactions to disasters.	..... do.....	1½
2, 3, 4	Evacuation.....	Students' projects.	2
2, 3, 4	Home shelter.....	..... do.....	2
5, 7	Shelter living for large groups of people.	..... do.....	2
3, 6	Survival measures.....	..... do.....	2
7	Improvised equipment and modified nursing techniques.	..... do.....	2
6, 7	Emergency hospital.....	Film, field trip, discussion.	2

*See page 32.

The specific topics dealt with in the class sessions were as follows:

1. Types of Disasters
 - a. Natural
 - b. Enemy-caused
2. Effects of Disasters and Introduction to Methods of Treatment
 - a. Types of injuries
 - b. Fallont
 - c. Radiation
 - d. Chemical
 - e. Biological
3. Citizen Responsibilities of Preparation
 - a. Home shelter
 - b. Sanitation in home
 - c. Needed supplies (food, water, first aid, etc.)
 - d. Isolation in home
 - e. Facing separation of families
 - f. Knowledge of warning signals
4. Survival and Protective Measures
 - a. Self-aid
 - b. Aid to others
 - c. Fire-fighting
5. Shelter Living (for large groups)
 - a. Psychological aspects
 - b. Medical needs
 - c. Sanitation—environment, food, etc.
 - d. Isolation of those with communicable disease
6. The Responsibilities of the Practical Nurse in Disaster Emergency Care and Care of Mass Casualties
 - a. Nursing measures in:
 - Hemorrhage
 - Obstructed airways
 - Burns
 - Fractures
 - Wound-bandaging and dressings
 - Radiation exposure
 - Psychological aspects
 - Medical needs
 - Sanitation—environment, food, etc.
 - b. The practical nurse working with other members of the health team

3. Student Projects

The students' presentations of subjects relating to disaster nursing constituted an effective part of the disaster nursing block. The students

formed into groups of from four to six, and each group selected a topic and presented it before the class in the form of an oral report, a panel discussion, or a skit or some other kind of demonstration. The students were given written instructions and a list of suggested topics from which they might make a selection if they chose. In addition, the instructor provided guidance in at least two conferences, one during the early planning stages and one shortly before the presentation. The utilization of at least 10 sources of information was required, including resource persons in the school, community agencies, and pamphlets, books, and magazine articles.

At the time of the oral presentation, the group was required to give the instructor a written summary of the project, including a detailed outline of the information to be presented, an indication of whether this information should be known to all citizens or to health personnel specifically, an indication of what responsibilities the licensed practical nurse might be expected to assume, and a list of all the resources used. The topics suggested to the first group of students included the following:

1. *Evacuation.* Include: Warning signals; methods of communication; evacuation of citizens from homes—plan for Minneapolis; evacuation of patients and personnel from hospitals—plans for Twin Cities' Hospitals; supplies each citizen is to have in his car; plans for reuniting families separated during evacuation.
2. *Home Shelter.* Include: Types of home shelters; sanitation; needed supplies (food, water, first aid); fire fighting.
3. *Shelter Living for Large Groups of Noninjured Survivors.* Include: Medical needs; sanitation; psychological aspects; care of special groups such as infants, mothers and newborn, geriatric individuals, people with communicable diseases.
4. *Survival Measures.* Include: Emergency nursing measures in hemorrhage; obstructed airways, burns, and fractures; care of wounds; radiation exposure; responsibilities of the practical nurse working with other members of the medical team.
5. *Isolation in the Home.* Include: A demonstration of how you would actually carry out isolation in the home.
6. *Improvised Equipment.* Include: Equipment which may have to be improvised in order to carry out nursing care; methods which may be modified in the home in order to carry on safe nursing activities.
7. *Agencies Involved in Planning for Disasters.* Include: The role and coordinating efforts of the American Red Cross; Office of Civil

and Defense Mobilization, fire and police departments. What courses pertaining to disasters are available for the general public and for nurses?

H. EVALUATION

A written examination given at the end of the disaster nursing block was useful in the evaluation of each student's achievement and also in the evaluation of the block of instruction. The questions asked on this examination indicate the type and depth of knowledge expected of the graduating student in practical nursing.

Questions

Objectives*

- 1 1. What major types of injuries would you expect to find immediately following a nuclear explosion?
- 3, 6 2. Every injured person, regardless of type of accident, must be treated as a potential victim of _____.
- 3, 6, 7 3. List five immediate lifesaving measures for giving first aid to the injured.
- 3, 6 4. List three objective symptoms of shock that may be detected by the person giving first aid.
- 6 5. Name and explain the four major categories used in sorting mass casualties.
- 1, 3, 6 6. Give four examples of accidents that will probably cause a person to stop breathing.
- 3, 6 7. The most rapid way to clear an air passage is to:
- 3, 6 8. The four initial steps in beginning mouth-to-mouth resuscitation are:
- 3, 6 9. What is the main precaution to observe in giving mouth-to-mouth resuscitation to an infant?
- 3, 6 10. Oral fluids *should not* be given to any person who:
- 3 11. The amount and type of ingredients to be mixed in one quart of water when making a home solution to treat shock are:
- 1, 6 12. Give five major nursing measures to consider in giving supportive care to victims of radiation exposure.
13. What is the major danger in overworking a person who is in the latent period of radiation sickness?

*See Page 32.

Objectives*

- 1, 6 14. What are the three earliest symptoms of radiation sickness?
- 1 15. List the three types of body cells which are the most susceptible to radiation.
- 3, 4, 5 16. The most effective means of removing radioactive fallout:
 - a. from a person
 - b. from clothing
- 3, 6 17. Give four symptoms that would indicate a person has a fracture.
- 3, 6 18. What areas must you include when you splint a fracture?
- 7 19. How can you home sterilize linens?
- 4 20. In routine health teaching, what measures could the average citizen be expected to follow which could protect large numbers of people in mass disasters?
- 2 21. The official State agency responsible for overall medical and health care is:
- 1, 5 22. What major problems, other than physical injuries, are created by mass disasters?
- 5 23. Two types of problems to be expected in shelter living are:
- 2 24. Where will the State government be relocated in the event that St. Paul has to be evacuated?
- 4 25. List three major points which were emphasized in the film "The House in the Middle."
- 2, 3, 4 26. The radio frequency numbers of the Conelrad Stations are and
- 4, 7 27. An easily obtained and inexpensive substance which can be used to disinfect body excreta is:

Each student's achievement was also evaluated on the basis of her participation in the planning and presentation of a student project and the written report of this project.

*See page 32.

I. CONCLUSIONS AND RECOMMENDATIONS

By the time the NLN project had come to an end, the faculty had concluded that the teaching of disaster nursing concepts in a practical nursing program can serve two purposes. One, it can help the student fulfill her responsibility as a citizen and as a future licensed practical nurse in the event of a natural or enemy-caused disaster. Two, it can result in a strengthening of the existing curriculum by challenging the faculty to provide learning experiences that will aid the graduate function in settings other than the usual setting of hospital or home. Accordingly, the instructional plan developed during the NLN project is being continued in the University of Minnesota practical nursing program.

The faculty also made three recommendations concerning the teaching of disaster nursing in the University of Minnesota program. These recommendations may or may not be appropriate for other educational programs in practical nursing.

First, the possession of a current first aid certificate should continue to be a prerequisite for admission to the practical nursing program. If the prospective student does not have this certificate at the time of admission, the Red Cross First Aid Course must be taken during the first half of the program.

Second, in the practical nursing program, the bulk of disaster nursing content can be appropriately taught in a block in the latter portion of the year's study. Where course content allows easy and natural association with a disaster situation, such as isolation precautions, "sprinkling" or integration can be planned.

Third, the inclusion of disaster nursing content in the practical nursing program is intended to provide the student with a background knowledge of basic concepts and specific facts essential to a general understanding of civil defense preparedness and mass casualty care, but the program cannot provide all the information or all the experiences the student should have to be fully prepared to function effectively as a licensed practical nurse in a disaster. Therefore, the faculty recommended that in order to be well informed and prepared, the graduates of the practical program take advantage of various educational programs which pertain to problems created by disaster. It pointed out that these programs may be inservice education programs provided by the employing agency or workshops and institutes provided by nursing organizations or community agencies.



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- A—Emergency Health Service Planning.
- B—Environmental Health.
- C—Medical Care and Treatment.
- D—Training.
- E—Health Resources Evaluation.
- F—Packaged Disaster Hospitals.*
- G—Health Facilities.
- H—Supplies and Equipment.
- I—Health Manpower.
- J—Public Water Supply.

*Formerly called Civil Defense Emergency Hospitals.

